A Study on Determinants, Issues and Performance of Corporate Bonds Market in India

Synopsis

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Background

Corporate bonds, the transferable debt securities are issued by companies alongside equity share capital, bank borrowing, and other sources of finance by which companies fund their business needs and expansion. These have long been a stable and reliable source of term finance for non-financial services companies in the real economy especially when the equity market is volatile and resource requirements of the corporate entities are large. Bonds are a pivotal mechanism for creating and sustaining enterprise, business investment, and economic growth.

The importance of corporate bonds for issuing companies has grown, particularly as bank lending has been squeezed, and is likely to continue to grow. Today, every country in order to enable public and private sector firms to borrow for longer maturity periods in local currency to meet their investment needs and avoid balance sheet mismatches and foreign currency exposures needs to accelerate the development of local currency bond market.

A well-developed corporate bond market complements a sound banking system in meeting the requirements of the corporate sector for long-term capital investment and helps in the diversification of risks in the financial system. An active corporate bond market provides institutional investors such as insurance companies and provident and pension funds with quality long-term financial assets, helping them in matching their assets and liabilities. Corporate bond markets offer a range of advantages to investors who need stable and predictable income and retention of capital value. They help the government in limiting indebtedness by offering investors an alternative to government bonds, and in meeting global public policy challenges and maintaining growth whilst remedying the imbalances that lead to market turmoil.

Till 1990s, most of the emerging market economies in Asia had bank-dominated financial system with Government-owned development finance institutions channelizing resources to specific sectors of the economy in consonance with the overall industrial policy and developmental agenda. It was the East Asian crisis of 1997-98 that brought forward the urgent need to develop financial markets to cater long-term financing needs of an ebullient and dynamic corporate sector. With the banking sector severely hit by the asset-liability mismatches, their reluctance to provide long-term credits to corporations caused

by hesitancy to widen the maturity mismatch on their own balance sheet coupled with high burden of foreign debt gave way to the development of a well-diversified debt market, specifically for corporate bonds, to supplement the availability of bank finance.

The Asian financial crisis demonstrated that short-term credit markets are prone to creditor runs; and a corporate bond market can provide the economy with an important backup form of intermediation. Since then, bond market development has become a high priority for policymakers in Asia. The development of local currency bond markets has been seen as a way to avoid crisis, with these markets helping to reduce potential currency and maturity mismatches in the financial system. Authorities across several Asian economies have now turned their attention to local currency corporate bond markets. They recognize that a robust financial system requires multiple channels of financing, in which banks and fixed income markets compete for borrowers.

Asian economies now have fairly active primary and secondary markets in local government bonds. While primary markets for corporate bonds in Asia have grown significantly, the growth in some markets has been led by quasi-government issuers or issuers with some form of credit guarantee. This may have happened because investors have had little access to the kind of information that would allow them to adequately evaluate the credit risks of other potential issuers. The secondary markets have developed even less, with little trading activity to be seen. Such inactivity may stem from a lack of investor diversity, inadequate market microstructures and insufficient flows of timely information.

It is observed that an efficient corporate bond market helps reduce financial sector fragility and provides an alternative cheap capital for firms (Yoshitomi and Shirai 2001). A deep and vibrant bond market provides better tools for risk pricing due to the reduction of information asymmetry; it enables efficient asset management, and enhances the role of the country on the international capital markets (Plummer and Click 2005). Thus, a robust corporate bond market enables the firms to raise funds at low cost, facilitate infrastructure financing, lower risk, and reduce over-reliance on bank financing.

India's Corporate Bond Market

The capital market structure in India has an overwhelmingly large commercial bank sector, mostly publicly owned. The assumption was that a government-controlled banking system would serve as a powerful instrument for targeted investment and economic development. But during boom period of

2005–08, the government, to boost growth in the absence of developed corporate bond market incentivized the public sector banks to channelize bank credit flows to the infrastructure sector. The huge funding by banks to infrastructure sector resulted in an asset-liability mismatch became long-term projects were funded by short-term liabilities. As economic growth tripped, many of these projects became unviable and resulted into huge NPAs in bank books. There were also instances of crony capitalism and evergreening of loans with the government's tacit or express approval.

It is believed that a liquid and well-developed corporate bond market in India can play a vital role in supporting economic development by supplementing the banking system to meet the needs of the corporate sector for long-term capital investment and asset creation. It can provide a stable source of finance when the equity market is volatile. The development of corporate bond market became more crucial since the declining role of development financial institutions (DFIs). Since the beginning of economic reforms in the early 1990s, though India has fairly progressed in the development of government securities (G-Secs) or gilt-edged securities along with a significant growth in the equity market over the last few years, the development of private corporate bond market is relatively smaller and is not as much developed and active as compared to other developed and emerging markets in the world.

Development of a vibrant market for long-term debt is crucial for meeting the financing requirements of private business, and especially so in the context of the physical infrastructure needs of a rapidly modernizing economy. Considering need of a sound and vibrant corporate bond market in India, the government took several measures (table – 1). It constituted several committees; most notably the R H Patil Committee (2005), Percy Mistry Committee (2007), Committee on Financial Sector Reforms (2008), and H R Khan Committee (2016). These committees recommended measures to augment the corporate bond market liquidity. Various agencies, such as reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), and the government have undertaken series of reforms in the Indian corporate bond market.

These reforms are aimed at encouraging retail participation, making the secondary market more transparent, creating smooth clearing and trading mechanisms, and reducing the cost and length of the issuance process. Despite these measures, the growth of the corporate bond market in India remains

unsatisfactory. In 2018 corporate debt to GDP ratio in India stood at a meagre 17.16 percent as compared to 123.47 percent in the US, 74.3 percent in South Korea, 44.5 percent in Malaysia, 33.02 percent in Singapore, and 18.86 percent in the case of China. In India, government bond market forms an overwhelming part of the overall debt market, in terms of both outstanding securities and trading volumes. In 2018-19, the proportion of outstanding corporate bonds of total fixed income securities and the share of corporate bonds in total turnover of debt market in India was merely 27 percent and 14 percent respectively. Moreover, most of the large issuers in the corporate debt market segment are quasi-government that is banks, public sector oil companies, or government-sponsored financial institutions. (Krishna and Nag, 2021).

Literature Review

Macroeconomic and financial environment of a country plays a critical role in the development of a bond market. It is believed that favourable macroeconomic factors and developments in financial sector stimulate the development of the market. Numerous studies have attempted to explain the effect of macroeconomic variable on corporate bond market performance. These factors are having a growing influence on the market because many investors have become more concerned with overall trends than with individual company fundamentals.

Burger and Warnock (2007) conducted a study taking markets domestic bonds of 49 countries as a sample. They found low inflation levels as a positive determinant of bond markets. They also found the positive effect of adequate institutional environment and banking industry on bond markets. Claessens, Klingebiel and Schmukler (2007) also observed similar results in a study conducted on 23 sub-Saharan African economies over the period 1990 – 2008, Adelegan and Radzewicz-Bak (2009) found a positive effect of strong law and order environment and a negative effect of low savings on bond markets.

Nair and Thenmozhi (2012) investigated the effect of macroeconomic factors on conditional volatility of developed and emerging bond markets using ARMAGARCH model. The findings of study indicate significant relationship of macroeconomic factors with volatility in all the selected bond markets, more specifically in the emerging economies. The study also revealed that past lags explain bond volatility in India, Brazil, USA, UK and Japan, which reasserts that the assumptions of random walk hypothesis do not hold true and bond markets are predictable in the long run. Agnihotri (2015) examined the

relationship between macro and micro market variables (inflation, exchange rate, crude prices, repo, and reverse repo) and return on bond of different maturities ranging from 1 to 10 years. And he observed that the bonds of different maturities generally move together with any given variable i.e. any variable would affect the bond price of shorter maturity same as that of longer maturity.

Maurya (2017) studied liquidity, yield spreads and volatility of Indian corporate debt market by using unit root test, correlation, auto-correlation, ganger causality, regression, and ARCH/ GARCH modeling techniques through some selected macroeconomic variables over a period from 1992 - 2016. The findings of the analysis reveal that only four variables viz., foreign exchange reserve, external debt, fiscal deficit, and government expenditures among all selected macroeconomic variables have significant impact on the inflows of corporate debt market. The overall analysis indicates that the liquidity condition of Indian corporate debt market is getting improved year over year, but it is not so good and needs improvement. Neemey and Sahay (2019) examined growth in Indian corporate bond market and its impact on selected monetary, fiscal, and economic variables during 2006 – 2016. Their findings reveal that Indian corporate bond market is associated with economic, monetary, and fiscal variables neither negatively nor positively nor at a significant rate. They concluded that among all the selected variables, GDP growth is the chief variable affecting foreign participation in Indian bond market.

Faniband and Marulkar (2020) studied the impact of macroeconomic factors on corporate debt market in India during April 2000 to March 2018 using quantile regression. They observed significant positive impact of consumer price index and a significant negative impact of wholesale price index on corporate debt in India. They however mentioned that interest rate and exchange rate do not have similar impact on corporate debt across the quantiles. Aman et. al (2020) stated that exports of goods and services, economic size, government spending, current account balance, banking sector development and stock markets have positive and significant effect on bond market development. However, bond markets react negatively to the stage of economic development. Most importantly, banking sector development and stock markets do not compete with and hamper the growth in bond markets. The existence of banking infrastructure itself complements bond market development. They suggested that openness of an

economy in the form of trade openness and current account openness is suitable for the development of a domestic debt market.

There are few studies which explored the relationship between the liquidity, bonds rating, trading activities, and corporate bond yield spreads. Some studies touched upon liquidity – corporate bond market relationships. To cite, Mukherjee (2019), studied the dynamics of corporate bond yield spread in India, and attempted to identify the possible determinants viz., bonds' liquidity, credit quality and therefore their yield spreads. He took large sample of daily corporate bond trade data over a period of 2011–2016, classified into issuers Segment-wise and rating wise, are analyzed within a basic statistical framework and using panel regression model. Default risk, as captured by the credit rating is found to significantly affect the yield spread for all types of securities. The researcher mentioned, even if the summary statistics and panel regression results broadly support the relationship between bond liquidity and yield spread better liquidity proxy measure may improve the said relationship. Movements in equity market also affect corporate bond yield spread in India.

Husna et. al (2020) examined the factors that determine bond yields in infrastructure companies listed on the Indonesia Stock Exchange. The researchers considered 31 bonds sample data issued by the companies over a period of 5 years (2015–2019) and the data analysis method to estimate the determinant of bond yield used multiple regression models. The results indicate that increase in coupon rate causes bond yields to increase, while inflation rate has opposite effect of decreasing bond yield. Interest rates and exchange rates as macroeconomic variables have not been considered by investors in purchasing bonds, hence they do not affect bond yield. Investors will be interested in investing in bonds with better yields if the company has to set a higher coupon rate, especially in economic conditions that experience low inflation rates. Bond characteristic factors, namely, the duration and rating of the bonds are considered less important factors in bond investment decisions because they are more oriented towards getting higher yields.

Some researchers tried to examine effect of liquidity and trading activities on yield spread of corporate bond market. To cite, Seth et. al (2010) examined the effect of liquidity and other trading activities on yield spreads in Indian bond market taking time series data for the last 10 years from (1999 to 2009) for the Wholesale Debt Market, and the last 4 years for the Corporate Bond Market. They used methodology

of Subrahmanyam et al. (2009) as a reference tool. In this study the researcher claim that it is the first time when this data has been used to study bond market liquidity in India, in recent times. This was a study of the imperfections in the Indian corporate bond market and the relationship between yields and market measures like liquidity, ratings, frequency of trading and they found good evidence regarding the significance of liquidity measures on yield spreads.

Acharya (2010) studied the exposure of the US corporate bond returns to liquidity shocks of stocks and treasury bonds over the period 1973 to 2007. He observed a decline in liquidity of stocks or treasury bonds produces conflicting effects i.e., prices of investment-grade bonds rise while prices of speculative grade bonds fall substantially. This effect is regime-switching in nature and holds when the state of the economy is in a "stress" regime. The likelihood of being in such a regime can be predicted by macroeconomic and financial market variables that are associated with adverse economic conditions. He claimed that his model can predict the out-of-sample bond returns for the stress years 2008-2009. The observed effects are robust to controlling for other systematic risks (term and default). The findings suggest the existence of time-varying liquidity risk of corporate bond returns and episodes of flight to liquidity.

Patil (2004) explained the rationale behind the measures announced by RBI and SEBI and broadly outlined the future directions needed to deepen and widen the corporate debt market, both through the stock exchange and banking mechanism. Sharma and Sinha (2006) highlighted the limitations of reasonably regulated, supervised, capitalized, and managed banking system, and outlined some of the preconditions necessary for the development of India's corporate bond market. NSE (2009) and Khan (2015) while analysing observations of various expert committees formed for developing corporate debt market in India emphasized on need for establishing trade reporting platform, repo in corporate bonds, credit default swaps (CDS) on corporate bonds, foreign portfolio investors, and domestic issuance of bonds.

Some researchers viewed that developed corporate bond markets have good risk assessment process with strong team of credit analysts and credit rating agencies. An independent corporate bond market can judge the intrinsic worth of investment demands better due to the disciplinary role of free-market forces. Competitive pressure on commercial banks in the matter of lending to private businesses help

improve the efficiency of the capital market and the economy as a whole (Bose and Coondoo 2003). Considering the need of corporate bond market, Gyntelberg et. al (2006) mentioned that crisis of 1997 demonstrated that short-term credit markets are prone to creditor runs, and a corporate bond market can provide the economy with an important backup form of intermediation.

Edwards et. al (2005) characterized the secondary trading costs in the corporate bond markets using a record of every corporate bond trade reported in 2003 in the US market. They observed that transaction costs in bonds are higher than equities and they decrease significantly with trade size. Further, the highly rated bonds, bonds with early maturity, and with publicly disseminated trade prices have lower transaction costs than other bonds. The results indicated that public traders would significantly benefit if bond prices were made more transparent. Shah, Thomas and Gorham (2008) examined products, market mechanisms, and some other policy issues in the development of corporate bond market in India. They describe how the two-fold restrictions, both on buyers as well as on the sellers, are becoming obstacles in the creation of a vibrant corporate bond market. The study also mentioned that the quality of available information on defaults on corporate bond market has actually worsened in recent years and calls for strengthening the creditors' rights for the development of India's corporate bond market.

Goswami and Sharma (2011) argued that development of local debt markets in Asia is facing obstacles from the Asian economies' dependence on the banking system, lack of minimum critical mass of corporate bond market to generate interest in bond issuance. The presence of developed equity markets, comfortable liquidity with the banks and corporations generate inertia, and constrain the development of local debt market. The study suggested that integrated regional market for local currency bonds can address the issue of critical mass in local debt market.

Banerji et. al (2012) observed larger costs of financing as one of the major bottlenecks to the development of bond market in India majorly caused by lack of transparency, inefficient market making, and illiquidity of the instrument. They mentioned that these factors not only lead to extra costs of financing that hampers investment in the real sector but also trap the bond market in a low-level equilibrium. Chaudhari, Raje and Singh (2014) described issues related with three pillars of corporate debt markets, viz., institution and regulators, market participants, and instruments. They stated that lack of depth and efficiency in the corporate debt market is mainly explained by inadequate infrastructure,

illiquidity, regulatory gaps, limited investor and issuer base, and absence of benchmark yield curve across maturities.

ICMA (2013) identified the areas where concerns are widespread about the impact of new regulation on the ability of corporate bond markets to fulfil their economic function effectively. These include, the effect of legislative proposals implementing the third Basel accord on intermediaries' ability to support the market, the impact of financial transaction taxes on market participants, the narrowness of market making exemptions in EU short selling regulations as a limiting factor in investors' ability to hedge their corporate bond trades, and the adaptation of updated EU regulations on markets in financial instruments to the special liquidity characteristics of corporate bond markets. The study mentioned that careful calibration and adjustment will be vital to protect liquidity in the secondary market and avoid consequent harm to the primary market.

The Problem

The discussion in preceding sections clearly indicate that India's corporate bond market has remained small despite a long history, several committee recommendations, and continuous reforms. It is besieged by several problems both from the supply and demand side ranging from illiquid secondary market, narrow investor base, lack of diversity of instruments, crowding out by large public issuance, high costs of borrowing, information asymmetry, regulatory restrictions on demand, unavailability of repo options, absence of well-functioning derivatives market and credit enhancement facilities that could absorb interest and default risks (Krishna and Nag, 2021). The recent crisis in the NBFCs had the potential to spillover to the banking sector and eventually hurt the corporate bond market. The default of the Infrastructure Leasing and Financial Services (IL&FS) in 2018 took everyone by surprise.

Key investors of Indian debt market primarily include Mutual Funds (MF), Retirement Funds (RF), Insurance Funds, Employees' Provident Fund Organization (EPFO), National Pension System (NPS), Banks, Foreign Portfolio Investors (FPIS), Corporates, High Net Worth Individuals (HNIS), Alternative Investment Funds (AIFs), and exempted trusts. Investment by these institutions is constrained by both regulations and ratings. The demand from these investors depends on their investment objectives, end - investor mandate, regulatory limits, and investment guidelines, such as not to invest in papers lower than AA ratings. All these factors limit the investment in corporate bonds.

Experts believe that corporate bond market cannot develop without strong regulation, credible credit rating agencies, auditors, and investor protection mechanism. Presently, government bond market is regulated by RBI and the corporate bond market is regulated by SEBI which being watchdog of already developed equity market cannot be expected to work with full efficiency towards development and regulation of corporate bond market in India. Acharya (2019) while addressing IIMA-World Bank Research Conference on Financial Distress, Bankruptcy and Corporate Finance mentioned "as more government debt floods markets, the relative safety and liquidity premium attached by investors to high-rated corporate bonds diminishes, raising the cost of borrowing, especially for AAA rated borrowers, and making it relatively less sensitive to policy rate cuts". He pointed out that as government debt to gross domestic product (GDP) ratio increases by 1 percentage point, the yields of the highest-rated (AAA) bonds increase by 2.3 percentage points. At the same time, the AA–AAA yield spread declines, contrary to the expectation of higher impact on yields of lower-rated bonds. This indicates crowding-out channel at work, especially for the cost of AAA-rated corporate debt. Thus, persistent high government borrowing can be just one of the many problems that has hurt the development of the corporate bond market in India.

CRISIL (2019) pointed out that India lacks high rated corporates; the AAA rated companies in India are merely 0.85 percent of the rated universe of 32,500 companies, the lowest among emerging markets. Further, there are only a few corporates capable of meeting investor requirements in terms of disclosure, transparency, and governance standards. This has resulted in weak investors' confidence in bond market and a yawning gap between demand for and supply of corporate bonds causing outflow of capital in search of greener pastures for safety and higher returns. Moreover, India lacks dedicated debt market and bond indices which may enable real time monitoring of corporate bond market. Having an index is extremely useful in the development of any security as an investment option. It can be gauged from the development of Indian equity market over the past few decades. From being an underdeveloped market until the 1980's, Indian equity market has now emerged as the best performing equity market in the world.

One of the important factors influencing secondary market transactions in bonds is the management of temporary or short-term liquidity. Though, long-term investors in bonds such as trusts or households

invest their funds in search of a steady rate of return, the investors with fluctuating levels of liquidity requirements prefer to invest temporarily idle funds in liquid bonds so that such funds earn a reasonable rate of return. Whenever such investors need liquid funds, they enter into repo transactions and borrow funds. Currently, secondary market in corporate bonds in India is highly illiquid and non-transparent, hence the corporate bonds are not considered to be suitable for repo transactions. (Patil, 2004). It is pertinent to mention here that the government of India, considering critical role of foreign investors in broadening and deepening corporate bond market enhanced the investment limit for foreign portfolio investment along with a reduction in withholding tax, but they are not fully utilizing the enhanced limits due to limited liquidity in the market. Moreover, lack of awareness, diversity and flexibility of products, and tax sops also make Indian corporate bond market unattractive for retail investors.

Need and Rationale of Study

In most international markets including the US, trading volumes in the debt market are much higher than those in stocks. Liquidity, too, is quite high with enough buyers and sellers willing to buy bonds with low credit ratings in the hope of receiving a big payoff. This enables companies to raise funds across different maturities including for infrastructure projects with long gestation periods. In contrast, India's corporate bond market of India is not deep and riddled with several problems. Access to local bond issuance has largely been confined to large and highly rated corporates, a situation attributable to the risk aversion of investors, investment restrictions on institutional investors as well as the lack of tools for reliable credit pricing and risk management.

The studies on intricacies and determinants of corporate bond market conducted in the past majorly focused on different economic settings. These studies are related to bond markets are carried out in the context of developed foreign countries which have high trading volumes in the debt market accomplished by large number of buyer and sellers and the liquidity which enables the buyers and sellers to buy bonds with low credit rating in the expectations of big payoff. Though, a few researchers discussed issues and performance of corporate bond market in Indian context, yet, there is no systematic comprehensive study on determinants, issues, and performance of corporate bond market in India. Now-a-days, the government is focusing on the development of corporate bonds market more aggressively. On July 12, 2021 the government launched Retail Direct Scheme to allow retail investor to open gilt

accounts with RBI. In the budget speech of 2021 Finance Minister has announced fresh measures to boost the development of India's corporate bond market. The researcher feels the need to delve deeper into the issues preventing the development of a liquid and vibrant corporate bond market in India. Hence, the topic titled "A Study on Determinants, Issues and Performance of Corporate Bonds Market in India" is proposed for present study.

Research Motivation

After review of existing literature concerned with the problem under study and the stylized facts in Indian context, the researcher has identified some pertinent issues which need to be addressed during study. These are:

- What is the policy framework of Indian government for the development and regulation of the corporate bond market?
- Where does India stand in the corporate bond market among its peer Asian economies after the Asian Financial Crisis of 1998, and what lessons should be learned from the performance of these countries to develop Indian Corporate bond market ?
- How and in what manner have macroeconomic factors, particularly GDP, corporate bond amount outstanding, interest rate on government bonds, exchange rate, and forex reserve influenced the performance of the corporate bond market in India?
- Whether and how liquidity and trading activities in corporate bond market affect yield spreads?
- What factors are responsible for Indian unattractiveness and low investors' confidence in Indian corporate bond market?
- What are the possible ways to tackle the problems such as an illiquid secondary market, a narrow investor base, high borrowing costs, information asymmetry, etc. in Indian corporate bond market?

Research Objectives

1. To develop understanding of the rationale and policy developments in corporate bond market in India.
2. To analyse trend, composition, and performance of corporate bond market in India vis-à-vis selected Asian economies.

3. To identify macroeconomic factors affecting performance of corporate bond market and examine their impact on Indian corporate bond market.
4. To examine whether liquidity and trading activities in corporate bond market affect yield spreads.
5. To identify antecedents affecting investors' confidence towards investment in corporate bonds and develop a comprehensive model for development of corporate bond market in India.

Research Hypotheses

Based on the above mentioned research objectives, the following null hypotheses have been tested:

H_{01}: There is no significance impact of identified macroeconomic factors individually on the performance of India's corporate bond market.

H_{02}: There is no significance impact of liquidity and trading activities on yield spreads in Indian corporate bond market.

Material and Methods

To accomplish above objectives the specific methodology sketched out is as follow:

1. The rationale and policy developments in corporate bond market in India will be scrutinized by using secondary information available in technical reports, research papers, and the publications of SEBI, RBI, and other regulatory authorities.
2. The trend, composition, and performance of corporate bond market in India vis-à-vis selected Asian economies the researcher has selected the top five Asian countries on the basis of size and composition of local currency corporate bond market (% of GDP) as on 31.March.2022 (Asia Bond Monitor, 2022). These are South Korea, Malaysia, China, Singapore and Thailand (Table-2). The relevant data on selected Asian economies will be collect from reports, research papers, and official websites of Bank for International Settlement (BIS), Asian Development Bank (ADB), SEBI, RBI, and National Stock Exchange (NSE). The collected data will be analysed by using ADF Unit Root test, Granger Causality test, and Regression analysis.
3. To examine the impact of identified macroeconomic factors such as GDP, corporate bond amount outstanding, interest rate on government bonds, exchange rate, and forex reserve on the performance of the Indian corporate bond market, initially the stationarity of all the variables will be checked by using ADF unit root test, and based on the stationary properties of the variables under consideration

suitable models such as OLS / VECM / Random walk model will be applied. In a nutshell the application of model will depend on the stationarity properties of data sets.

4. Liquidity and trading activities in corporate bond market affecting yield spreads will be examined through the Model suggested by Subrahmanyam et al. (2009).
5. The antecedents affecting investors' confidence towards investment in corporate bond market will identified through primary data that would be collected from 200 individual investors of Agra region and 50 fund managers of various investment institutions operating in India by the way of structured questionnaire. Based on collected information, the researcher will develop a comprehensive model for the development of corporate bond market in India.

The Data: Annual data spanning from 2006-07 onwards. The frequency of data is annual because quarterly data on the corporate bond market is not available on any of the authentic source, such as SEBI or RBI. Further, official data on the corporate bond market is available from 2006–07 only. However, the researcher will make efforts to collect quarterly data (if available) during the course of the study.

Data Sources: Research papers, technical reports, publications of BIS, ADB, SEBI, RBI, NSE, BSE, and other related agencies.

Analytical Tools: Basic Descriptive (Mean, Dispersion and Coefficient of Variation), ADF Unit Root test, Regression analysis, Granger Causality test, and OLS / VECM / Random walk model.

Software: Microsoft Excel (10.0), and E-Views (version 12.1)

Expected Implications

Proposed study will have implications for investors, issuers, and regulators. Investors incorporate transactions costs into their portfolio decisions; their investment decisions depend on the costs of investing in bonds as well as the costs of divesting as they require liquidity before the date of maturity. Issuers consider floatation as well as transaction costs in secondary market while deciding structure of bonds. They also consider features of bonds that reduce liquidity and make bonds unattractive to investors. Regulators focus on market structure, transaction costs, liquidity, and transparency to promote competition, develop efficiency and make bond market more attractive for investors.

Chapter Plan

1. Introduction

2. Theoretical Foundation, Review of Literature and Research Methodology
3. Trend, Composition, and Performance of Corporate Bond Market in India
4. Policy Developments in Corporate Bond Market in India
5. Determinants of the Performance of Corporate Bond Market in India
6. Antecedents of investors' confidence in Corporate Bond Market
7. Conclusion

Appendix – 1

Table – 1: Chronology of Development of Corporate Bond Market in India

Year	Reforms	Objectives
December 2006	SEBI permits Bombay Stock Exchange (BSE) to set up a reporting platform.	Capturing all trade information about corporate bonds to enable efficient price discovery and reliable clearing and settlement process.
January 2007	SEBI to be responsible for the primary and secondary market. Further, RBI was made responsible for the repo/reverse repo transactions in corporate debt.	Clarity on the agencies responsible for different segments of the corporate debt market.
	Corporate bonds will be traded using existing exchanges at National Stock Exchange (NSE) and Bombay Stock Exchange (BSE).	Efficient use of existing infra-structure.
	There would be no separate trading platforms for different kinds of (retail vs institutional) investors.	Efficient use of existing infrastructure.
April 2007	SEBI allows stock exchanges to provide services for clearing and settlement of corporate bonds.	Develop a transparent and efficient secondary market for corporate bonds.
	SEBI permits both BSE and NSE to have in place corporate bond trading platforms.	Capturing all trade information about corporate bonds to enable efficient price discovery and reliable clearing and settlement process.
	SEBI reduced size of tradable lots in corporate bonds.	Encourage the participation of retail investors. Provide access to better information about companies issuing debentures.
August 2007	SEBI makes it mandatory that companies issuing debentures should disseminate all information (default to pay interest, revision of ratings, etc.) about the debentures to the investors and general public.	Provide access to better information about companies issuing debentures.
May 2009	The simplified listing agreement is put in place by SEBI.	Reduction in time and cost of issuance process.
August 2009	Mandatory to report inter-scheme transfers of corporate bonds by mutual funds on NSE, BSE, and Fixed Income Money Market and Derivatives Association of India (FIMMDA).	More detailed information dissemination of trading.
October 2009	SEBI mandated the clearing and settlement of all trades through National Securities Clearing	Clearing and settlement of trades in this market to follow the International

	Corporation Limited (NSCCL) or the Indian Clearing Corporation Limited (ICCL).	Organization of Security Commissions (IOSCO) standards and the global best practices by way of well-established clearing and settlement procedures through recognized clearing and settlement agencies.
2014	Issuance of long-term bonds by banks allowed for the infrastructure sector.	Banks were allowed to issue long-term bonds for funding their long-term commitments. This will help in reducing asset-liability mismatches in the longer-term maturities.
2014	Masala bond-bonds issued outside India but denominated in Indian rupees.	Masala bond makes the investors bear the currency risk. The first Masala bond was issued by the World Bank-backed International Finance Corporation (IFC) in November 2014 when it raised Rs. 1,000 crore bonds to fund infrastructure projects in India.
2015	Issue of Green bond	Yes, Bank and Exim Bank of India issued a five-year green bond of US$ 500 million, which is India's first dollar-denominated green bond. The Indian Green Bonds Council, formed in late 2017.
2017	RBI increased the corporate bond investment limit for foreign portfolio investors (FPIs) by taking out Masala bonds from the ambit of the total investment limit.	The limit for investment by FPIs in corporate bonds was Rs. 2,44,323 crores, including Rs. 44,001 crore of Masala bonds. Now, Masala bonds will form part of the ECBs.
March 2020	RBI announced Targeted Long-term Repo Operations (TLTROs) on 27 March 2020 for Rs. 1.0 lakh crore	To be deployed in fresh acquisition of investment grade corporate bonds, CPs and Non-convertible Debentures (NCDs) in both primary and secondary segments of the markets.

Table – 2: Top five Asian countries are selected on the basis of Size and composition of local currency Corporate bond market (% of GDP)

Country	Size and composition of local currency corporate bond market (% of GDP)
South Korea	86.8
Malaysia	56.8
China	42.2
Singapore	36.5
Thailand	24.8

Source: Asia Bond Monitor (March, 2022), Asian Development Bank.

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